

CLAIMS

12. An axial or mixed flow fan comprising fan blades extending from a hub provided with a deflector ring at the air delivery end of the rotational axis, each fan blade including an extension adjacent the hub in the air delivery direction such that an area which is not filled in is bounded by the blade edge and a notional straight line joining the extension and a corner of the blade.

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13. A fan as claimed in claim 1, wherein the hub deflector ring in the fan is of a cross section which broadens towards the air delivery end of the rotational axis.

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14. A fan as claimed in claim 2, wherein the hub deflector ring is of a curved cross-section becoming increasingly broad towards the air delivery end of the rotational axis.

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15. A fan as claimed in claim 1, wherein the extension is triangular.

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16. A fan as claimed in claim 1, wherein the fan is a mixed flow fan and the fan blades have axes which lie in planes generally radial of the rotational axis, but which axes are inclined in that plane so as to be contained on the surface of an imaginary cone instead of lying in a plane normal to the axis of rotation.

17. A fan as claimed in claim 1, wherein the fan includes a shroud and the

shroud has an axial length which is less than the developed axial length of the blade tip chord.

18. A fan as claimed in claim 1, wherein the blades have adjustable pitch.

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19. A fan as claimed in claim 7, wherein the mixed flow fan has a part spherical hub.

10 20. A fan as claimed in claim 7, wherein the fan has a part spherical shroud.

15 21. A fan as claimed in claim 8, wherein the fan has a part spherical shroud.

22. A fan as claimed in claim 1, wherein the extension extends the root of each fan blade substantially to the outer edge of the deflector ring.

23. A fan as claimed in claim 1, wherein the fan is a large tip chord fan.

20 24. An axial or mixed flow fan comprising fan blades extending from a hub provided with a deflector ring at the air delivery end of the rotational axis, each fan blade including an extension adjacent the hub in the air delivery direction.

25. A fan as claimed in claim 13, wherein the hub deflector ring in the fan is of a cross section which broadens towards the air delivery end of the rotational axis.

5 26. A fan as claimed in claim 14, wherein the hub deflector ring is of a curved cross-section becoming increasingly broad towards the air delivery end of the rotational axis.

27. A fan as claimed in claim 13, wherein the extension is triangular.

10 28. A fan as claimed in claim 13, wherein the fan is a mixed flow fan and the fan blades have axes which lie in planes generally radial of the rotational axis, but which axes are inclined in that plane so as to be contained on the surface of an imaginary cone instead of lying in a plane normal to the axis of rotation.

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29. A fan as claimed in claim 13, wherein the blades have adjustable pitch.

20 30. A fan as claimed in claim 18, wherein the mixed flow fan has a part spherical hub.

31. A fan as claimed in claim 13, wherein the extension extends the root of each fan blade substantially to the outer edge of the deflector ring.